
Journal of Urban Health: Bulletin of the New York Academy of Medicine Vol. 79, No. 3, September 2002


# A Vulnerable Population in a Time of Crisis: Drug Users and the Attacks on the World Trade Center

Linda Weiss, Antonella Fabri, Kate McCoy, Phillip Coffin, Julie Netherland, and Ruth Finkelstein

**ABSTRACT** *In this article, we present preliminary findings from a qualitative study focused on the impact of the World Trade Center attacks on New York City residents who are current or former users of heroin, crack, and other forms of cocaine. In it, we present data describing their responses to and feelings about the attacks, changes in drug use after the attacks, and factors affecting changes in use. Our analysis is based on 57 open-ended interviews conducted between October 2001 and February 2002. The majority of study participants reported that the attacks had a significant emotional impact on them, causing anxiety, sadness, and anger. Several described practical impacts as well, including significant reductions in income. On September 11th and the weeks and months that followed, several participants who had been actively using did increase their use of heroin, crack, and/or other forms of cocaine. Reductions in use were, however, as common over time as were increases. There was some relapse among former users, but this was limited to those who had stopped using drugs within the 6 months immediately preceding the attacks. A diverse set of factors interacted to control use. For some participants, these factors were internal, relating to their individual motivations and drug use experiences. Other participants were essentially forced to limit use by marked reductions in income. For others, access to health and social service professionals, as well as drug treatment, proved to be key.*

**KEYWORDS** *Cocaine, Disaster, Drug Users, Heroin, Terrorism, World Trade Center.*

## INTRODUCTION

An estimated 3000 people died in the September 11th attacks on the World Trade Center.[1] Thousands more witnessed the devastation firsthand, many just narrowly escaping death or serious injury themselves. Graphic images of the planes crashing and collapse of the Twin Towers were pervasive in the media, serving as constant reminders of each painful detail of the day's unprecedented horror. Disruptions in phone service and travel (some caused by bomb scares) persisted during the weeks following the attacks, further exacerbating already high levels of stress. Even among

Drs. Weiss and Finkelstein and Ms. Netherland are from the Office of Special Populations at the New York Academy of Medicine; Dr. Fabri is from the Department of Anthropology at John Jay College, City University of New York; Dr. McCoy is from the Department of Family Medicine and Community Health at Montefiore Medical Center; Mr. Coffin is from the Center for Urban Epidemiologic Studies at the New York Academy of Medicine.

Correspondence: Linda Weiss, PhD, Senior Research Associate, Office of Special Populations, New York Academy of Medicine, 1216 Fifth Avenue, Room 444, New York, NY 10029. (E-mail: lweiss@nyam.org)

New Yorkers who were relatively far from the site of the attacks and with no personal connections to the dead or injured, fear, anxiety, and sadness were common.

There is a growing body of literature examining the psychological impact of disasters, including those caused by nature (hurricanes, tornadoes, earthquakes, and floods)[2–6] and those caused by humans, such as the bombing of the Alfred P. Murrah Federal Building in Oklahoma City, Oklahoma[7–10]; the 1992 Los Angeles, California, riots[11]; and terrorist attacks,[12,13] including the September 11th attacks.[14–16] This literature indicates that psychological impact is generally greatest among those most directly affected, including those who were at or relatively close to the site of the tragedy or who had loved ones who were injured or killed.[5,10,11,14,17] The literature also shows more severe reactions to disasters among vulnerable populations, including those with prior mental illness or trauma,[8,14,16,17] recent stressful life events,[14] lack of social support,[3,14] and lower-income levels.[14] Females[8,16] and members of minority populations are also more likely to be strongly affected.[14,16]

This article reports on one particularly vulnerable population: current and former users of heroin, crack, and/or other forms of cocaine, with a main emphasis on low-income users. Drug users, particularly low-income users, commonly have a number of health and social problems. They are more likely than other populations to have mental illnesses, to be infected with human immunodeficiency virus (HIV), and to be without a home or job.[18–21] They are also more likely to have experienced trauma in their lives, including physical or sexual abuse, often occurring in childhood and/or adolescence.[22–25] Their ability to cope with a tragedy of such enormous scope may be compromised by these factors, leading to behaviors that further increase their vulnerability.

In this article, we present preliminary findings regarding drug user reactions to the events of September 11th, including the extent to which those events affected them emotionally and affected their drug use behavior. To date, there has been little research examining substance use in the aftermath of a disaster, and with few exceptions,[26,27] the literature that is available focuses primarily on alcohol. Findings do suggest increased use, but are not definitive.[7] An increase in use of alcohol, cigarettes, sleeping pills, antidepressants, and tranquilizers was evident among those who survived the 1987 sinking of the ferry *Herald of Free Enterprise*.[26] Alcohol and cigarette use also increased after the bombing in Oklahoma City,[10] particularly among those who were injured and those with higher grief and posttraumatic stress disorder (PTSD) symptomatology.[7] In contrast, persons on site during the crash of an Air Force jet into a hotel lobby were no more likely to have a postdisaster alcohol diagnosis than were those off site.[17]

## METHODS

Data were derived from an ongoing study of current and former users of heroin, crack, and other forms of cocaine. The study was designed to address three core questions:

1. Has anxiety, depression, and disruption led to increased drug use, including relapse among those who had quit?
2. Has increased security in New York City led to reduced availability of drugs, which may in turn lead to increased rates of higher risk behaviors?
3. Are the health and support services drug users rely on available and receptive to their needs?

The study utilizes qualitative methods to elicit detailed descriptions of participants' experiences and feelings and their rationales for particular reactions, told from their own perspectives using their own words. Although qualitative methods necessitate small sample sizes and therefore limit one's ability to extrapolate findings to broader populations or to carefully examine associations between variables, they are rich in the detail needed to understand complex decisions and behaviors. Furthermore, qualitative methods allow study "subjects" to describe and catalogue their experiences into their own constructs rather than ones predetermined by the researchers.

Participants are recruited through personal connections of the interviewers (each of whom has at least 3 years of experience doing qualitative research with drug users), harm-reduction programs, programs serving HIV-infected individuals, and street outreach. Individuals are eligible for participation in the study if they are at least 18 years of age and have ever been regular users of heroin, crack, or other forms of cocaine. Efforts are being made to oversample lower-income users and individuals who were living in lower Manhattan at the time of the attacks.

A semistructured interview instrument is being utilized that incorporates questions on a range of issues, including participants' experiences and perceptions of September 11th; feelings regarding the attacks; access and use of health and support services; coping strategies and use of support systems; sources of income; neighborhood of residence; drug use patterns and behaviors before and after the September 11th attacks; and perceptions of shifts in the availability, quality, and price of drugs. The interview instrument was developed particularly for use in this study. Two of the project interviewers piloted a first draft with eight participants, after which a number of minor revisions were made. On average, the interview lasts 35–40 minutes and can be conducted in English or Spanish. Interviews are tape recorded (with the permission of the participant). English language interviews are transcribed; Spanish language interviews are summarized by the interviewer. All transcripts and other project documents use participant pseudonyms only. The study protocol was approved by the New York Academy of Medicine's Institutional Review Board. Data collected are protected under a confidentiality certificate issued by the National Institute on Drug Abuse.

The analysis presented here is based on the first 57 interviews completed. These interviews were conducted between October 2001 and February 2002. In this preliminary analysis, we are reporting on evidence regarding the first of our three study questions: whether the emotional responses to the events of September 11th affected drug use patterns in these current and former users. To provide this evidence, we analyzed responses to the specific interview questions that probed for (1) the participants' personal experiences of September 11th (where they were when the attacks occurred, how they found out about them, whether anyone they knew personally was hurt); (2) their feelings and emotions since the attacks (whether they have been feeling worried or upset, whether they feel like a different person in any way, and whether the attacks reminded them of experiences from their past); and (3) whether their drug or alcohol use is different from what they were doing before September 11th (using different drugs, using more or less drugs) and thoughts about changes in use. For this analysis, data related to participant characteristics and to the main study question (changes in drug use) have been quantified. All other data remain qualitative.

## RESULTS

Of the 57 participants on whom this report is based, 20 are female. There are 15 participants who are African American, and 15 are Latino. Some form of public assistance, including Food Stamps, federal or state income support, and/or Social Security (either Supplemental Security Income [SSI] or Social Security Disability [SSD]) is received by 31. Only 1 reported having a regular, salaried job. Several are skilled laborers (e.g., in plumbing and carpentry), and many do a variety of odd jobs. At the time of the interview, 18 were either homeless or living in shelters or other transitional housing. There were 36 participants actively using heroin, cocaine (either crack or other forms of cocaine), or both around the time of the attacks: 11 were actively using heroin only, 18 were actively using cocaine only, and 7 were using both. There was significant variability in the levels of use reported, ranging from one time per month to several times per day. Of the 21 participants who were no longer using drugs, 5 had previously used cocaine only, 12 had used heroin only, and 4 had used both heroin and cocaine. Of these former users, 9 were on prescribed methadone.

The attacks on the World Trade Center were witnessed firsthand by 8 participants. None were injured, but many (19) reported the death of someone they knew; 6 lost friends or family members, although no participants apparently lost parents, children, partners, or siblings. Seventeen reported a significant reduction in income. Reasons included loss of income sources in lower Manhattan (commonly, but not exclusively, panhandling and odd jobs) and changes in the spending habits of New Yorkers with respect to non-necessities (this affected 1 participant who worked in restaurants, 2 who worked in cosmetics/fashion, 1 sex worker, and 2 who worked in home repair and improvement). In two instances, participants' anxiety or depression had taken away their motivation to work. For the majority of participants who received public assistance, there were no interruptions in payment. The few whose benefits were not yet in place felt the tragedies resulted in delays in the processing of their applications.

According to participants, drugs were as readily available—or more readily available—immediately after the attacks of September 11th as they were previously, despite an increased presence of police and National Guard. Several participants commented that people who bought illegal drugs by necessity knew how to avoid the police. Others explained that police, preoccupied with terrorism, showed very little interest in drug-related crimes.

### Perceptions and Feelings Regarding the Attacks

Similar to other New Yorkers, most participants felt that the events of September 11th were highly significant, frightening, sad, and stressful. For many, coping proved difficult. "Darryl," a 39-year-old heroin user with a history of mental illness, lived in an apartment very close to the World Trade Center which was badly damaged by the attacks. He contends that he will never return to the area or to his apartment. He explained:

> It brought up a lot of stuff, especially in my wife's suicide, you know. It's just back on top. I've had a year to recuperate, and I was going to get back into the workforce. I had a great place to live and had food in the refrigerator, you know. And I also have a son that my sister's taking care of. I was just about to have him move in with me, put him through school—because he's 4 years old.

> And everything just backfired, you know. Everything came to a halt—all my goals, shot!

"Sunny," a 41-year-old male from the West Indies, lost his favorite cousin in the attacks. He said he thinks about what happened every day but described feeling numb to the pain:

> I joined the gym, and I haven't lost a fight yet. And my trainer asks me, "How come when you do get knocked down, you pop right back up?" I said, "Because I don't feel it." I was walking down the block one day, and I slipped and fell, and I hit my head up against the telephone—telephone box—really bad. Got up, brushed my clothes off, and walked away from the accident. They asked me, "Did you feel it? Did you hurt yourself?" I said, "No." They said, "Why you don't feel pain?" I said, "Too much on my mind to feel," you know.

Many commented that they had never experienced—or imagined experiencing—anything like the day's events. But, for some, the attacks reminded them of other frightening, sad, and traumatic events. Veterans were often reminded of war experiences. "Barry" was on his way to his methadone clinic when he saw the attacks:

> I mean, I been out—I been out of the service for over 20 years. And this, this was like bringing it back—and I didn't want it. It was hard. It was hard, because I lost a lot of friends in Vietnam. And it just reminded me of the people that got hit, you know. I mean we knocked down buildings, and we burned people, we shot people—you know, in Vietnam. And I seen this, this building, collapsing into a big fireball, it reminded me of us hitting the North Vietnamese—hitting their command post. You know, we would hit their command post with napalm. You know, where once we hit it, it burned. It burns right down to the ground. And that's what this—it was like going back in time. It just reminded me of the napalm and how people burned.

For others, the attacks brought back memories of personal tragedy. "Mata Hari," a 49-year-old former heroin user who lived just five blocks from the World Trade Center, was reminded of being raped as a teenager. She explained:

> The first experience that came to mind was one that happened to me when I was 17 years old—I'm not going to lie—I was going to buy a $3 bag of junk [heroin]. And the wrong guy got his hands on my money, and I insisted on following him into the building. And he raped me on the roof, with part of my torso off the roof. All I did was beg him not to ejaculate in me. So, I was afraid I'd get pregnant; I was only 17. I only had sex about two or three times before with [inaudible] man. I was scared. He's telling me he was a murderer—he just got outta jail—he'd kill me. I didn't know if I was going to live or die.

Most participants talked about their sadness over unnecessary loss of life and the pain experienced by spouses and children left behind. "Nan," a 44-year-old Latina, has been living with HIV for 20 years. She described her emotional response to September 11th:

> Every time, on the TV and they show that part—when that building's just crumbling down—I literally sit there and cry. You know, it's sad. I can't get

> over it. I didn't have to have anyone real, real close to me in that to feel the way I feel. I just feel for everybody that was in there and the families that are now struggling, coping.

Most also expressed generalized anxiety and/or specific fears, principally fear of additional attacks. Loud noises and airplanes overhead resulted in panic and sleepless nights. Several feared traveling on the subways, which for many New Yorkers—particularly lower-income New Yorkers—are the only practical means of transportation.

Sunny, whose immunity to pain was described above, had difficulty controlling his feelings of fear:

> Yes, because I said, "If it's the World Trade Center, what's going to be next?" you know. It has me thinking, you know. And, I'm really scared. I'm scared because we don't know what's going to happen next. And I keep thinking about it. So, I try to like stimulate my feelings, you know—keep them—try not to be scared. But it's not working you know. I even talked to a—certain people—like people that I see, like psychiatrists and stuff. I talked to them. It's just not helping. It's not helping because I'm wondering what's going to happen next.

"Roach," a 26-year-old Latina who had a close friend die in the attacks, said:

> I'd say the first 2 or 3 months I was really scared—I was having nightmares. And every time I would hear a plane, I would just jump. Every time I would hear a jet going over my house, I would jump. And of course I went to the funeral, and my [other] friend recovered finally. And going to her apartment, it brings it all back because she has a perfect view of the World Trade Center, and when you look off the terrace, all you see is the bulldozers there now, just digging and taking out the steel. And I just keep thinking about all the bodies that are still there. And it's like—it's far behind me now and—but I still jump at the sound of airplanes.

Several participants reported feelings of intense anger and distrust. Anger was focused primarily on the perpetrators of the attacks, and for some participants, it was generalized to all Arabs and Muslims. A small number expressed anger with the US government for being either insufficiently prepared to protect us from the attack (despite the bombing of the World Trade Center in 1993) and/or partially responsible due to foreign policies that serve to either alienate and aggravate overseas populations or that support military training of militant groups.

A small number of participants reported that they were not emotionally affected by the events of September 11th since the attacks did not have a direct impact on them or anyone they knew. Some explained that they had already experienced—and learned to cope with—much pain in their lives, including service in Vietnam, family dysfunction and breakup, and the premature death of loved ones. A few HIV-infected individuals commented that their own health and well-being were now dependent on maintenance of a "low-stress" life.

"Pepe" is a 54-year-old Latino male from the Bronx. Although he described feeling devastated immediately after the attacks, he explained his efforts to "think positive" in the days that followed:

> No, I don't let nothing bother me, you know. I'm 54 years old—I been through a lot. You know, I used to have my own store, my own house; I was

> married, have a granddaughter, a daughter. You know, and I had money at the time, you know. And drugs took it all. So I don't, you know—I can't let nothing bother me because I have the virus now, yeah. I was diagnosed in '93, and if I let anything bother me, it'd kill me. You got to think positive, you know.

### Impact on Drug Use

*Active Users* For most of the sample of active users, drug use did not significantly change in the immediate aftermath of the World Trade Center attacks; several saw little reason to expect that it would have done so. There were 10 active users who did initially increase use of either heroin or cocaine. Some made no efforts to relate their increases to particular feelings regarding the attacks. For example, "Jack" witnessed debris from the World Trade Center blowing into his Brooklyn neighborhood on September 11th and described a "horrible, choking stench in the air." Commenting on his drug use that day, he said:

> But the day of the 11th, I went to some friends who live right near a dope spot. And all of us there—you know, it seemed like it just went without saying that—we're just, you know, let's just go out and score as much coke as we can right now, you know. It seemed like the appropriate thing to do.

"Bob," a Harlem resident who uses cocaine, commented:

> Yeah, right after, yeah. And part of it was like—it was like a stupid thought, like after the attack, like, "Maybe I'll just have a big blowout, while I'm still alive," type a thing you say, just in case they start bombing here in New York. You know, just have the last party today.

Others, like "Kelly," a sex worker from the lower East Side, did describe their drug use as a way to deal with the pain and anxiety they felt that day:

> I mean, it was something I didn't want to have to think about or deal with. And you know, I wanted to kind of medicate that feeling of panic and, and fear. And you know, the longer you think about it, the more details you think about—and what it must've been like, you know, for people on the plane and for people who worked there and for people who lived down there. And you know, I just didn't want to have to think about that stuff. So, my first reaction was to go get medicated and get myself out of thinking about it.

"Bobby," a 46-year-old Latino male who uses cocaine and heroin, watched the events on television over and over again. He mentioned that he felt traumatized and anxious, was unable to sleep at night, and was concerned that World War III was imminent. With respect to his drug use, he said:

> I used more. I used more because I, I didn't want to think no more, you know. I didn't want to think no more. And that's why, whatever money I had, I wasted it in that because I wanted to knock myself out. That's what I wanted to do—knock myself out—not to think about anything else.

In the weeks and months that followed the attacks, some participants continued to shift their drug use patterns. At the time of their interviews, 10 were using more than they had been prior to the attacks (not necessarily the same 10 who reported

increased use on September 11th), 10 were using less than they had previously, and 16 reported no change in use. Among those with a sustained increase in use, a lingering sense of anxiety and futility was sometimes described. "Randall," a 53-year-old who witnessed the attacks from Staten Island, commented on his increased use:

> I have smoked [cocaine] more since then. I had been tapering off. But I was a vet, and this is my country. Sometimes I hate this country for the things that are done to lower class people—the way we're treated—but this is my country. And for somebody to attack us like that, it kind of drained me. I . . . I . . . I did cry—I'm an emotional man. I'm not ashamed of crying. And then I got angry. But then, you know, I'm an addict. We, we tend to medicate ourselves—self-medicate.

According to Bob:

> And then sometimes—I mean it's already—it's a habit anyway, so I'm just saying, that the thought that goes along with it—has been more since then because, you know. If I'm going to get high I'll do it more—you know, make it worth the while, you know, because I don't know if I'm a do it tomorrow, you know.

Among those who decreased use, motivations varied. Two participants who use crack commented that its effects are not particularly welcome during already difficult times. One of them explained, "When you have a problem, crack is not the thing to turn to. . . . Crack doesn't help you forget it, it brings it on more." For other participants, the attacks served as a sort of "wake-up call," encouraging them to reassess their habits. Often, motivations were at least in part related to economics. "Smitty," a 44-year-old homeless man, had previously done odd jobs around Canal Street to earn money. He had not worked since September 11th. He commented, "Quite . . . quite frankly I could tell—this is a good question—I use it less, because it is more difficult for me to get money."

The most dramatic example of economic impact on drug use is on Kelly, the sex worker on the lower East Side. After September 11th, she had no clients and consequently no money. She felt she had no choice but to enroll in a methadone program:

> You know, I mean, it was really impossible for me to work. There was nobody around, and you know, it just made it impossible. So, for me, being a drug user, the only option I had was to go seek treatment somewhere—you know, to go and get on a methadone program or something, because you know there was no way that I coulda survived it, you know. I would have been very sick with withdrawals and stuff. And you know, even the people that I knew that I could call, just didn't, you know—didn't want to come down, didn't want to come get me.

In the months that followed the attacks, Kelly's abstinence took on greater meaning for her, increasing her self-sufficiency and reducing the extent to which she was (in her view) a burden to others. She explained:

> I think that, I think that it's kind of given me a little bit of a step up, you know, instead of just giving up. And you know here are all these people that

> are finding all this courage to deal with all this pain and all this hate, and just—it just kinda brought me to a point where I thought I should do something, too. And even if it was only gonna affect me, at least I was one less person that they had to worry about taking care of—that I could take care of myself or get help to take care of myself, you know. Because all these organizations—I didn't want to take away from, from what somebody else might need, that you know, is more important.

Yet, such a rapid reduction in drug use has not proved easy for her:

> And it's just very hard for me, because I have no—not having those drugs to medicate my feelings with—all those feelings come back up again. And you start to feel the things that you were medicating. And they just come, and they just well up so much that I just—it's almost like out of control. Sometimes, I just, I think I'm just gonna die of all the pain that I have. But, you know, I talk about it, and I get through it. There's people around me now that, that I can talk to and that will help me. So, it's given me a better view, and you know, life is precious.
>
> [Interviewer: What?]
>
> Life is precious. And I want to be a part of that.

*Former Users* Of the 21 participants who had previously used cocaine and/or heroin, 4 relapsed. "Lloyd" is an HIV-infected male from the Bronx. When he heard about the attacks, he left work to check on his children and other family members. He described feeling unsafe and helpless since September 11th. On October 13, he stopped going to work and started using drugs again. He said:

> If I'm high, it won't matter, you know. I figure—listen, I think I gave up because I'm saying, "What's the sense in trying to further my life when shit like this—stuff like this—could happen and your life could end anyway. So, enjoy what you do." I don't know.

Those who had stopped using several years ago were better able to maintain a commitment to abstinence than were those who had stopped relatively recently (within the past 6 months). Individuals in methadone programs were also less likely to relapse. Of the 9 former users on prescribed methadone, only 1 person increased heroin use after September 11th.

Several of the former users in the sample reported that they never considered using again. Others thought about drugs, but then dismissed the idea as either futile or self-destructive. "Marcos," an HIV-infected male from the South Bronx, used drugs for 17 years but had been clean since 1997. He explained:

> I mean, I love using, I love getting high. When I stepped out that courtroom on September 11th, I wanted to get a bundle of crack and just smoke. And say, "God why?" But I said, "You know what? It's not worth it."

"Nan," who had been clean for 15 years, also decided against using: "I was going through a lot of changes, and I was crying. I was destroyed about what happened. But me running to drugs wasn't going to, you know, fix anything, you know."

Mata Hari, whose building was so close to the World Trade Center that it was initially evacuated, chose not to use so she could help those who might need her—

and as point of honor. Mata Hari initially stopped using heroin 22 years ago, but has relapsed on a number of occasions. She commented:

> You know why I didn't feel like using again? Because I said in my head—I says—"I got to keep my head straight now in case if anyone needs me—family especially, neighbors—people I don't know." I was even thinking of volunteering, you know. And I was adamant not to let him score one on me. "Uh uh. You big, bad man, you think you're gonna get me to shoot up? No! You MF-er. You might have blew up the building, but you're not gonna blow me up."

For a number of study participants, mental health professionals, counselors, or support groups were instrumental to efforts to cope with the tragedy without the use of drugs. "Cookie," a 48-year-old woman with asthma, was just blocks from the World Trade Center when the attacks took place. Told that there was a possibility of a gas leak explosion, Cookie ran for her life. Although she had not used heroin for 6 years, she described how her thoughts turned immediately to drugs. With the support of her case manager and counselor, she was able to avoid relapse.

> You know, I just sat—right then and there—I said, "Well I'm going to get high or go get a drink because I don't know if tomorrow's promised to me." You know, I went there. But you know, I went to my case manager and my counselor, and I talked about it, you know—for that to just come, you know, like the world's coming to end. You know, see where my mentality—where my mind went—straight to drugs. Being I know that I was an addict—see where it went. Instead of you know, I should be thinking about, "How am I going to get away from here," you know. That's one thing we, we take our thoughts in our mind—and we throw it—we like medicate it, you know. And it's not good, because medicated only makes it worse. And then I thought about—I got 6 years, and I got a whole bunch—and if I go do that, I just threw away everything—things I worked hard for, that when I was drugging, before I drugged, didn't have, you know.

## CONCLUSION

Although several studies have found an increase in the use of alcohol following large-scale disaster, there is very little literature that has examined changes in the use of heroin and cocaine. For people with a history of drug use, such increases would seem to be particularly likely. In our sample of current and former users of heroin and cocaine, we found limited overall change in use. On September 11th and during the weeks and months that followed, a significant minority of participants did increase their use of heroin and cocaine. A similar number of participants, however, reduced their use of these drugs. There was some evidence of relapse among former users, but it was restricted to those who had most recently stopped using. These findings are consistent with the study by Factor et al.[27] in this issue, a cross-sectional study of street-recruited heroin and cocaine users, which compared rates of drug use before and after September 11th and found no statistically significant increases in use.

It should be noted that these findings are preliminary and incomplete. The sample size (57) is too small for generalizations, and a number of analyses, including those focused on prescription medication (bought either with a prescription or on the street), cigarette smoking, and alcohol use are still to be conducted. Analyses

that incorporate population characteristics need to be undertaken as well. Notwithstanding these limitations, it seems likely that users of cocaine and heroin in New York City did not, for the most part, significantly increase use in the weeks and months that followed the attacks of September 11th.

A number of factors appear to have been important to the control of drug use, including access to health and social service professionals, the use of prescribed methadone, economic constraints, and the diverse (and little understood) personal characteristics and motivations of individual participants. Attempts will be made to confirm and expand on these findings once data collection is complete.

## ACKNOWLEDGEMENT

Funding for this study was provided by the National Institute on Drug Abuse (R01 DA13146-02S1e).

We would like to gratefully acknowledge the valuable work of the following individuals and agencies: David Vlahov, PhD, assisted with the development and design of the project; Stephanie Herman, JD, conducted a number of participant interviews; Lisa Robbins-Stathas, PhD, transcribed the interview tapes; and Citiwide Harm Reduction Center, the AIDS Service Center of Lower Manhattan, ADAPT, and the Lower East Side Harm Reduction Center facilitated recruitment of study participants. We would also like to acknowledge and thank each of the study participants, who kindly agreed to share their thoughts and experiences.

## REFERENCES

1. A nation challenged: dead and missing. *New York Times*. February 15, 2002;sect A:10.
2. Bromet E, Dew MA. Review of psychiatric epidemiologic research on disasters. *Epidemiol Rev*. 1995;17:113–119.
3. Madakasira S, O'Brien K. Acute posttraumatic stress disorder in victims of natural disaster. *J Nerv Ment Dis*. 1987;175:286–290.
4. Wang X, Gao L, Zhang H, Zhao C, Shen Y. Longitudinal study of earthquake related PTSD in a randomly selected community sample in North China. *Am J Psychiatry*. 2000;157:1260–1266.
5. Shore JM, Tatum EL, Vollmer WM. Psychiatric reactions to disaster: the Mount St. Helens experience. *Am J Psychiatry*. 1986;143:590–595.
6. Shore JM, Vollmer WM, Tatum EL. Community patterns of posttraumatic stress disorders. *J Nerv Ment Dis*. 1989;177:681–685.
7. Pfefferbaum B, Doughty DE. Increased alcohol use in a treatment sample of Oklahoma City bombing victims. *Psychiatry*. 2001;64:296–303.
8. North CS, Nixon SJ, Shariat S, et al. Psychiatric disorders among survivors of the Oklahoma City bombing. *JAMA*. 1999;282:755–762.
9. Tucker P, Dickson W, Pfefferbaum B, McDonald NB, Allen G. Traumatic reactions as predictors of posttraumatic stress six months after the Oklahoma City bombing. *Psychiatr Serv*. 1997;48:1191–1194.
10. Smith DW, Christiansen EH, Vincent R, Hann NE. Population effects of the bombing of Oklahoma City. *J Okla State Med Assoc*. 1999;92:193–198.
11. Hanson R, Kilpatrick D, Freedy JR, Saunders BE. Los Angeles County after the 1992 civil disturbances: degree of exposure and impact on mental health. *J Consult Clin Psychol*. 1995;63:987–996.
12. Gidron Y. Posttraumatic stress disorder after terrorist attacks: a review. *J Nerv Ment Dis*. 2002;190:118–121.
13. Abenhaim L, Dab W, Salmi R. Study of civilian victims of terrorist attacks (France 1982–1987). *J Clin Epidemiol*. 1992;45:103–109.

14. Galea S, Ahern J, Resnick H, et al. Psychological sequelae of the September 11 terrorist attacks in New York City. *N Engl J Med*. 2002;346:982–987.
15. Center on Addiction and Substance Abuse. Thirteen states, four major cities see increased demand for drug and alcohol treatment since September 11th [press release]. New York: Center on Addiction and Substance Abuse; 2001.
16. Schuster MA, Stein B, Jaycox LH, et al. A national survey of stress reactions after the September 11, 2001, terrorist attacks. *N Engl J Med*. 2001;345:1507–1512.
17. Smith EM, North CS, McCool RE, Shea JM. Acute postdisaster psychiatric disorders: identification of persons at risk. *Am J Psychiatry*. 1990;147:202–206.
18. Hser Y, Hoffman V, Grella C, Anglin M. A 33-year follow-up of narcotics addicts. *Arch Gen Psychiatry*. 2001;58:503–508.
19. Contoreggi C, Rexroad VE, Lange WR. Current management of infectious complications in the injecting drug user. *J Subst Abuse Treat*. 1998;15:95–106.
20. Bradley C, Zarkin G. An inpatient profile of patients with a substance abuse diagnosis in Maryland. *J Subst Abuse Treat*. 1997;14:155–162.
21. Kushel MB, Vittinghoff E, Haas J. Factors associated with the health care utilization of homeless persons. *JAMA*. 2001;285:200–206.
22. Silverman JG, Raj A, Mucci LA, Hathaway JE. Dating violence against adolescent girls and associate substance use, unhealthy weight control, sexual risk behavior, pregnancy, and suicidality. *JAMA*. 2001;286:572–579.
23. Ballon B, Courbasson C, Smith P. Physical and sexual abuse issues among youths with substance use problems. *Can J Psychiatry*. 2001;46:617–621.
24. Back S, Dansky BS, Coffey SF, Saladin ME, Sonne S, Brady KT. Cocaine dependence with and without post-traumatic stress disorder: a comparison of substance use, trauma history and psychiatric comorbidity. *Am J Addict*. 2000;9:51–62.
25. Triffleman E, Marmar C, Delucchi K, Ronfeldt H. Childhood trauma and posttraumatic stress disorder in substance abuse inpatients. *J Nerv Ment Dis*. 1995;183:172–176.
26. Joseph S, Yule W, Williams R, Hodgkinson P. Increased substance use in survivors of the *Herald of Free Enterprise* disaster. *Br J Med Psychol*. 1993;66(pt 2):185–191.
27. Factor SH, Wu Y, Monserrate J, et al. Drug use frequency among street-recruited heroin and cocaine users in Harlem and the Bronx before and after September 11, 2001. *J Urban Health*. 2002;79:404–408.